

## WELCOME TO DOE'S *RCRA ORIENTATION FOR FACILITY MANAGERS* COURSEWARE

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**Background** This module comprises one component of courseware materials that were developed by DOE's Office of Environmental Policy and Assistance, RCRA/CERCLA Division, EH-413, in response to a request from the Deputy Assistant Secretary for Nuclear and Facility Safety (EH-3). The original course was titled *RCRA Orientation for Nuclear and Facility Safety* and was presented on March 5, 1997, at Germantown, MD. Presentation materials were derived from the more formal three-day course titled DOE's *RCRA Orientation Workshop*, which was developed by EH-413 under a joint funding venture that included the Savannah River Site and the Albuquerque Operations Office.

**Courseware Content** Although derived from the three-day workshop, DOE's *RCRA Orientation for Nuclear and Facility Safety* (now titled *RCRA Orientation for Facility Managers*) was expanded by developing two new modules to meet the needs of Nuclear Safety Managers. One of the new modules (*Corrective Action*) compares and contrasts RCRA closure and corrective action with CERCLA remedial action by using Oak Ridge Reservation as an example of a radioactively contaminated site closed under RCRA, but undergoing remediation under CERCLA. The other module (*Emerging Issues*) offered a snapshot of the emerging regulations that were expected to impact the Department most dramatically. The remaining courseware modules include:

- Introduction to RCRA and Liability Overview,
- Overview of Solid Waste Determination,
- Overview of Hazardous Waste Determination, and
- Permitting.

PDF "Handout" files only, which contain the aforementioned modules, are designed to serve as stand-alone resources and are equipped with: (1) A list of module contents, (2) Module-specific enabling objectives; (3) Self-assessment questions and answers; (4) A module-specific regulatory citation/key word index; and (5) A module-specific cross-link table that identifies hypertext links to additional Internet resources for hazardous waste-related information.

**Using the Courseware Materials** Within the PDF Handout modules, users are encouraged to examine the module's Regulatory-Statutory Citation/Key Word Index to identify the availability and location of topics of interest. In contrast, users can simply "dig-in" and sequentially examine the courseware's content. For less extensive reviews or to download additional course presentation materials as needed, users can return to the [RCRA Orientation for Facility Managers Home Page](#) to access electronic files containing the remaining PDF Handout and/or Vugraph files.

To assist users in accessing additional Internet resources, where possible, module-specific hypertext links have been inserted into select points within each of the six PDF Handout courseware modules. Hypertext links appear in both the slide and notes portions as either *blue italicized text* (the first time a link to a particular resource is offered in a given module) or *green italicized text* (each subsequent link to that same resource) and have been assigned to terms and phases for which additional Internet resources such as other EH-413 guidance documents, other Internet Websites, etc. are available. Upon identifying a highlighted term or phase of interest, users generally can access the additional Internet resources by clicking on the highlighted text, which will then hypertext link to another Internet resource. Additional information for obtaining those resources that are not Internet-accessible as well as the objectives, content and organization, use, list of acronyms, Internet resources, and master index is presented in the [\*Front-End Materials section\*](#) (first section).

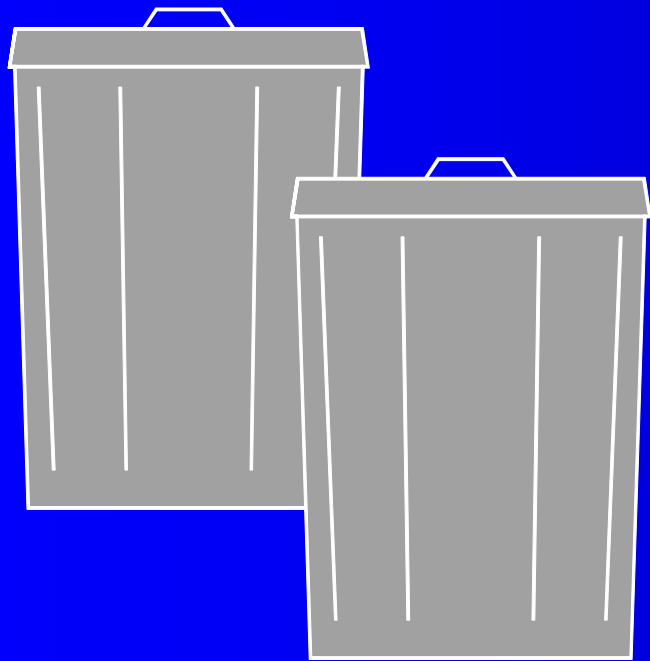
**Feedback  
And  
Contacts**

If you have difficulty in downloading or reviewing modules comprising DOE's *RCRA Orientation for Facility Managers*, [contact our Webmaster](#) and please [provide us with feedback](#). If you are interested in attending the three-day *RCRA Orientation Workshop*, please contact the [National Environmental Training Office](#). Additional questions concerning this courseware or the information presented therein may be directed to Atam Sikri of my staff by:

- Calling at (202) 586-1879,
- Faxing messages to (202) 586-0955, or
- Communicating electronically, via Internet, to [atam.sikri@eh.doe.gov](mailto:atam.sikri@eh.doe.gov).



# **Solid Waste Definition**



# Definition of Hazardous Waste

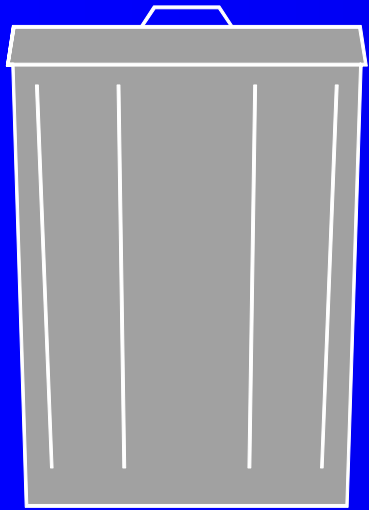


# What Is “Solid Waste?”

## The Law Says It Is

Any garbage, refuse, sludge. . . , and any other *discarded* material, including: *solid, liquid, semisolid or contained gaseous material*, resulting from industrial, commercial, mining, and agricultural operations and from community activities. . .

# ***Solid Wastes*** Are Materials That:



- Are thrown away (abandoned),
- Are stored and managed to facilitate their disposal (abandoned),
- Can no longer serve their original intended purpose (abandoned, recycled), or
- Are discarded from one use but are accumulated for reuse elsewhere (with a few exceptions) (recycled).

# ***What Is Not A Solid Waste?***

- Domestic sewage (untreated) and mixtures of sewage and other materials that pass through a POTW
- Industrial wastewater discharges that are point sources under NPDES
- Source, special nuclear, and by-product material subject to the AEA, as amended
- Materials recycled in a closed loop

So Far So Good, BUT Why Is It Not As Simple As It Looks?

*Recyclable Materials* May Or May Not Be Solid Waste, Depending On The Specific Material And Method Of Recycling



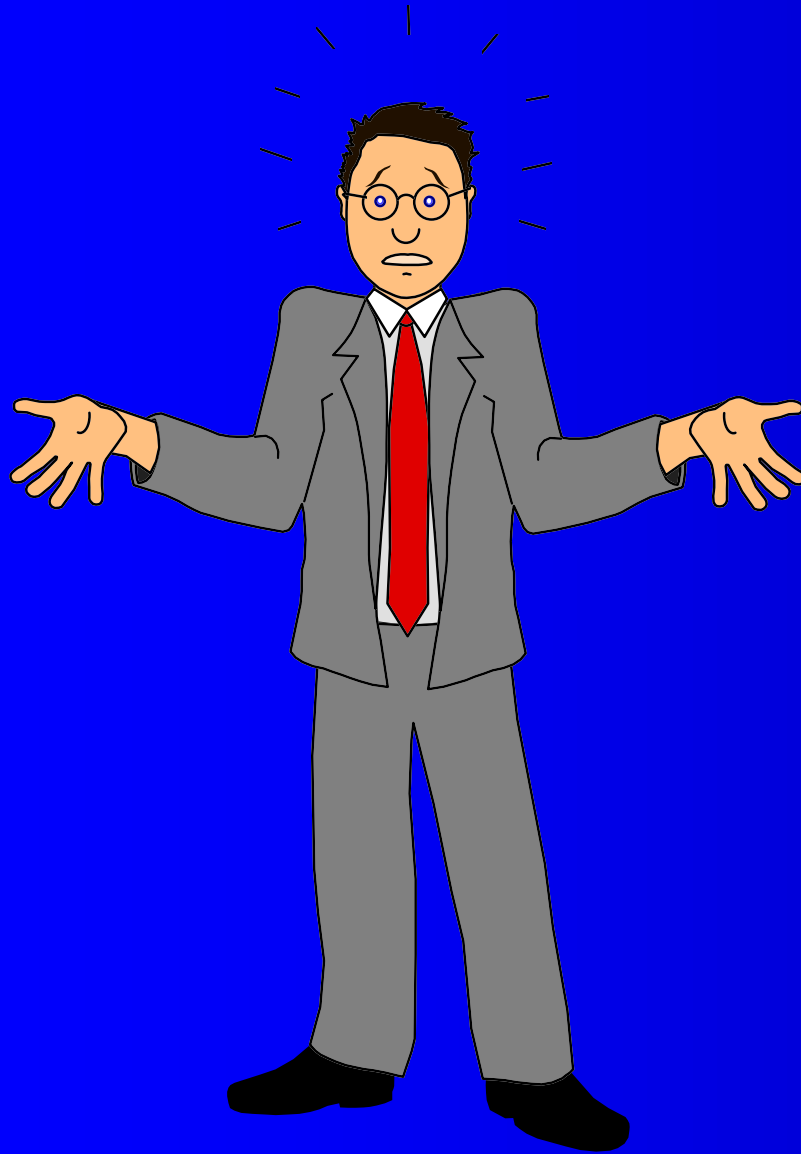
# Materials *Are Solid Wastes* *When Recycled* Through:

- Uses constituting disposal (i.e., applying to land or adding to other materials that are applied to land),
- Burning for energy recovery,
- Reclaiming (processing to recover usable product), or
- Speculatively accumulating before recycling.

# Materials Are Not Solid Waste When *Recycled* IF They Are

- *Used or reused as ingredients* in an industrial process to make a product, provided they are not being reclaimed,
- *Used or reused as substitutes* for commercial products, or
- *Returned to the original process* from which they are generated without first being reclaimed or land disposed (must substitute for raw material feedstock in a process that uses mainly raw materials as feedstocks).

Are You Confused?



How Do We Sort Out  
Which Other Recyclable  
Materials Are Solid  
Wastes?

*Table 1, 40 CFR 261.2,*  
has some answers

# ***Table 1*** Addresses The Following Wastes That May Be Beneficially Reused:

- spent materials
- sludges
- by-products
- commercial chemical products
- scrap metal

**Table 1, 40 CFR 261.2(c) defines how recyclable materials generated from one process are regulated when they are reused elsewhere. “Yes” means the recyclable material is regulated as solid waste, and “No” means it is not.**

<b>Recyclable Material</b>	<b>Used In Manner Constituting Disposal</b>	<b>Burned for Energy Recovery</b>	<b>Reclaimed</b>	<b>Speculatively Accumulated</b>
Spent Materials	Yes	Yes	Yes	Yes
Listed Sludges	Yes	Yes	Yes	Yes
Characteristic Hazardous Sludges	Yes	Yes	No	Yes
Listed By-Products	Yes	Yes	Yes	Yes
Characteristic Hazardous By-Products	Yes	Yes	No	Yes
Commercial Chemical Products	Yes	Yes	No	No
Scrap Metal	Yes	Yes	Yes	Yes

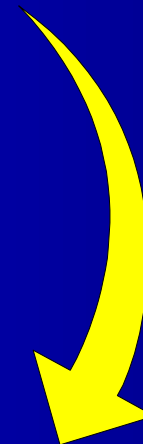
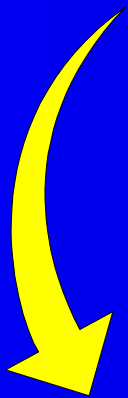
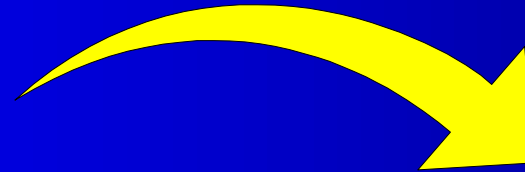
# Try Out Your *Solid Waste* Definition Knowledge

*Spent Solvent*

*Reclaim*

*Reuse Directly*

*Reuse*



# Example to Explore *Solid Waste* Definition

Sierra Club vs. United States Department of Energy and  
Rockwell International  
Corporation

Case No. 89-B-181

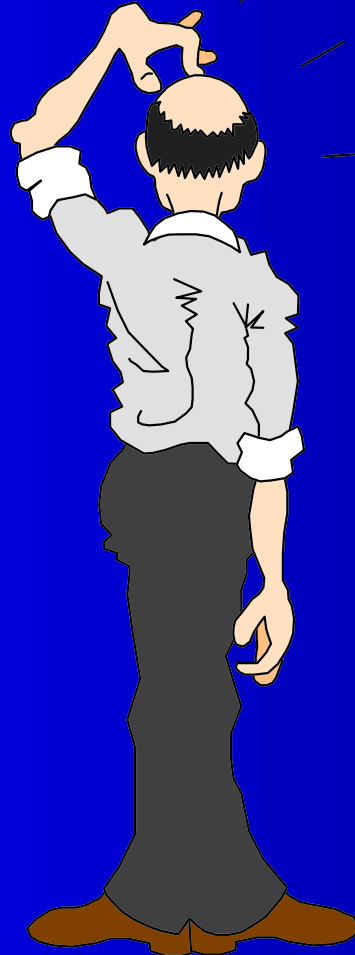
District of Colorado  
1990

# Summary

- The solid waste definition is a key hazardous waste concept because only solid wastes can be hazardous waste.
- Solid wastes are materials that are no longer usable for their intended purpose.
- Recyclable materials may be solid waste, depending on the waste and method of recycling.



# Which Solid Wastes Are *Hazardous Wastes?*



### Solid Waste Definition Module Cross-Links

Module Page/Line	Cross-Link Language	Resource/Document
SW-2/Notes, Line 3	“solid waste”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-3/Notes, Line 1	“solid waste”	Exclusions and Exemptions from RCRA Hazardous Waste Regulation; DOE/EH-231-034/0593; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf</a>
SW-3/Notes, Line 3	“RCRA”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; <a href="http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM">http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM</a>
SW-4/Slide, Line 1	“Solid Wastes”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-4/Notes, Line 3	“[40 CFR 261.2(a)]”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>
SW-4/Notes, Line 7	“recycled”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>

SW-5/Slide, Lines 1-2	“What Is NOT A Solid Waste?”	Overview of the Identification of Hazardous Waste Under RCRA; DOE/EH-231-007/1291; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/define.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/define.pdf</a>
SW-5/Notes, Line 1	“statutory and regulatory exclusions”	Exclusions and Exemptions from RCRA Hazardous Waste Regulation; DOE/EH-231-034/0593; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf</a>
SW-5/Notes, Line 4	“POTW exclusion”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-5/Notes, Line 9	“Federal Facility Compliance Act”	OEPA Environmental Law Summary: Federal Facility Compliance Act <a href="http://tis-nt.eh.doe.gov/oepa/law_sum/FFCA.HTM">http://tis-nt.eh.doe.gov/oepa/law_sum/FFCA.HTM</a>
SW-5/Notes, Line 11	“FOTWs”	Federal Facility Compliance Act Implications for RCRA Corrective Action; DOE/EH-231-015/0994; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/impl.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/impl.pdf</a>
SW-5/Notes, Line 15	“(NPDES) exclusion”	Exclusions and Exemptions from RCRA Hazardous Waste Regulation; DOE/EH-231-034/0593; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf</a>
SW-5/Notes, Line 19	“Atomic Energy Act (AEA)”	OEPA Environmental Law Summary: Atomic Energy Act and Related Legislation <a href="http://tis-nt.eh.doe.gov/oepa/law_sum/AEA.HTM">http://tis-nt.eh.doe.gov/oepa/law_sum/AEA.HTM</a>
SW-5/Notes, Lines 19-20	“RCRA Section 1004(27)”	OEPA Environmental Law Summary: Resource Conservation and Recovery Act; <a href="http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM">http://tis-nt.eh.doe.gov/oepa/law_sum/RCRA.HTM</a>
SW-5/Notes, Line 28	“mixed waste”	EPA Mixed Waste Team Home Page; <a href="http://www.epa.gov/radiation/mixed-waste/index.html#general">http://www.epa.gov/radiation/mixed-waste/index.html#general</a>
SW-5/Notes, Line 30	“40 CFR 261.4”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>
SW-6/Slide, Line 3	“Recyclable Materials”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>

SW-7/Slide, Line 2	“Are Solid Wastes When Recycled”	Special Requirements Applicable to Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/special.html">http://tis-nt.eh.doe.gov/oepa/programs/special.html</a>
SW-7/Notes, Line 1	“recycled”	Special Requirements Applicable to Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/special.html">http://tis-nt.eh.doe.gov/oepa/programs/special.html</a>
SW-7/Notes, Line 3	“applying to the land”	Land Disposal Restrictions (LDR) Overview; DOE/EH-231/005/0293; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ldr-over.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/ldr-over.pdf</a>
SW-7/Notes, Line 3	“commercial chemical product”	Identification of Certain RCRA Wastes — the F-Spent Solvent, P, and U Listings; DOE/EH-231-008/1291; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf</a>
SW-7/Notes, Line 4	“burning”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-7/Notes, Line 7	“reclaiming”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-7/Notes, Lines 9-10	“[40 CFR 261.2(c)]”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>
SW-7/Notes, Line 11	“Speculative accumulation”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-7/Notes, Line 12	“[40 CFR 261.1(c)(8)]”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>

SW-8/Slide, Line 2	“Recycled”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-8/Slide, Line 3	“Used or reused as ingredients”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-8/Slide, Line 6	“Used or reused as substitutes”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-8/Slide, Line 8	Returned to the original process”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-8 Notes, Line 3	“[40 CFR 261.2(e)]”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>
SW-8 Notes, Line 5	“remain solid wastes”	Special Requirements Applicable to Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/special.html">http://tis-nt.eh.doe.gov/oepa/programs/special.html</a>
SW-9/Slide, Line 6	“Table 1, 40 CFR 261.2”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>

SW-10/Slide, Line 1	“Table 1”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-10/Notes, Line 2	“40 CFR 261.2, Table 1”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>
SW-10/Notes, Line 4	“Spent material”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-10/Notes, Line 7	“Sludge”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-10/Notes, Lines 9-10	“40 CFR 260.10”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>
SW-10/Notes, Line 11	“By-products”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-10/Notes, Line 14	“co-product”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-10/Notes, Line 16	“Commercial chemical products”	Identification of Certain RCRA Wastes — the F-Spent Solvent, P, and U Listings; DOE/EH-231-008/1291; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf</a>
SW-10/Notes, Line 16-17	“40 CFR 261.33”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>
SW-10/Notes, Line 22	“scrap metal”	Exclusions and Exemptions from RCRA Hazardous Waste Regulation; DOE/EH-231-034/0593; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/exclude.pdf</a>
SW-10/Notes, Line 26	“recyclable materials”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-10/Notes, Line 26	“40 CFR 261.6”	“Code of Federal Regulations - Retrieve CFR by citation”; <a href="http://www.access.gpo.gov/nara/cfr/index.html">http://www.access.gpo.gov/nara/cfr/index.html</a>
SW-11	N/A	N/A

SW-12/Slide, Line 1	“Solid Waste”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-12/Slide, Line 3	“Spent Solvent”	Identification of Certain RCRA Wastes — the F-Spent Solvent, P, and U Listings; DOE/EH-231-008/1291; ; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/spent.pdf</a>
SW-12/Slide, Line 3	“Reclaim”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990, <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-12/Slide, Line 4	“Reuse Directly”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990, <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-12/Slide, Line 4	“Reuse”	Requirements for the Recycling of Hazardous Waste; DOE/EH-231-001/0990; <a href="http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf">http://tis-nt.eh.doe.gov/oepa/guidance/rcra/recycle.pdf</a>
SW-13/Slide, Line 1	“Solid Waste”	RCRA Definitions of Solid and Hazardous Waste Automated Guidance (Windows Version); <a href="http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html">http://tis-nt.eh.doe.gov/oepa/programs/rcradef.html</a>
SW-14	N/A	N/A
SW-15/Slide, Line 2	“Hazardous Wastes”	“Definition of Hazardous Waste” module, Page 1